Uponor IQ pipe 1000 & 1200 mm

Factory Standard – FS 101

Plastic piping system for non-pressure underground drainage and sewerage

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1 Foreword

This factory standard specifies the requirements and test methods for Uponor IQ pipes 1000–1200 mm.

The pipes fulfil all of the requirements specified in EN 13476-1 and -3 except following characteristics:

- Ring flexibility where the requirement in EN 13476-3 is 30 %, whereas the requirement in the Factory Standard is 15 %
- Tightness of elastomeric sealing ring joints for DN 1200, where, for practical reasons, the test is performed without the diametric deflection
- Exceptions on Drawing NO1492

The characteristics which are specific for the IQ pipes, where more than one requirement is given, and where the characteristics of the IQ pipes are deviating from EN 13476-3 are mentioned. For those characteristics that are not mentioned in this Factory Standard the requirements given in EN 13476-1 and -3 are fulfilled.

2 Scope

The factory standard specifies PP pipes with a profiled external and a smooth internal surface for non-pressure underground drainage and sewerage.

3 References

EN 13476-1	Plastics piping systems for non-pressure underground drainage and sewerage - Structured-wall piping systems of polyvinyl chloride (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 1: Specification and requirements for pipes, fittings and the system
EN 13476-3	Plastics piping systems for non-pressure underground drainage and sewerage – Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) – Part 3: Specifications for pipes and fittings with a smooth internal and a profiled external surface and the system, Type B
INSTA SBC 13476	Plastics piping systems for underground drainage and sewerage. Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U) polypropylene

4 Material

4.1 General

The material shall be (PP) polypropylene to which are added those additives, which are needed to facilitate the manufacture of pipes conforming to this factory standard. The use of own reprocessable PP materials is allowed, provided that all requirements given in this factory standard are fulfilled.

4.2 Colour

The colour of the pipes shall be black outer layer and grey inner layer.
Chamber pipes can be black or grey.

5 Pipes

5.1 Geometrical characteristics

5.1.1 Dimensions

The dimensions of the pipes are listed in Drawing NO1492
The dimensions of the sockets are listed in Drawing NO1492

5.1.2 Length of the pipes

The effective length of the pipes shall not be less than specified by the manufacturer.

The pipes are supplied in lengths of:

- DN/ID1000 2,7 and 6,0 m
- DN/ID 1200 2,6 and 5,8 m.
- For both sizes fix lengths can be supplied after order.

6 Mechanical characteristics

6.1 General information

The pipes shall conform to the mechanical requirements given in Table 1.

		Test parameters		
Characteristics	**Requirement**	**Characteristics**	**Value**	**Method**
Ring stiffness	≥ 8,0 kN/m^2	Temperature Deformation	23 °C 3 %	EN ISO 9969
Impact strength at –10 °C	H_{50} ≥ 1000 mm no break below 500 mm	Temperature Type of striker Mass of striker	-10 °C d90 12,50 kg	EN 1411
Ring flexibility 15 %	No cracking	Deflection Length of test piece	15 % of dem2 Whole ribs min 290 mm	EN 1446

Table 1 - Mechanical characteristics for pipes

7 Elastomeric seals

The elastomeric seal shall be made of rubber conforming to the requirements of EN 681-1.

8 Performance requirements

8.1 General information

The pipes, sockets and joints shall comply with the performance requirements as specified in Table 3.

Characteristics	Requirement	Test parameters		Method
		Characteristics	Value	
Tightness of elastomeric ring seal joint – Deformation	No leakage No leakage Pressure ≤ -0,27 kPa	Temperature Spigot deformation Socket deformation Water pressure Water pressure Air pressure	23 ± 2 °C 15 %a) 10 %a) 0,05 bar 0,5 bar -0,3 bar	EN 1277 Condition D
Tightness of elastomeric ring seal joint – Joint deflection	No leakage No leakage Pressure ≤ -0,27 kPa	Temperature Joint deflection Water pressure Water pressure Air pressure	23 ± 2 °C 1 ° 0,05 bar 0,5 bar -0,3 bar	EN 1277 Condition C
a) The DN 1200 joints are tested without diametric deflection other than what is generated by the mass of the water inside the pipes				

Table 3 - Performance requirements

9 Marking

The marking shall be carried out on the product according to Drawing NO1492

10 Assessment of conformity

The assessment of conformity is made after the valid INSTA SBC 13476 with the exception that the audit testing is made at Uponor laboratory without third party involvement, and the external inspection is only considering the certified smaller sizes.
Journals and test reports shall be filed in accordance with routines and instructions in the manufacturer's quality management system.